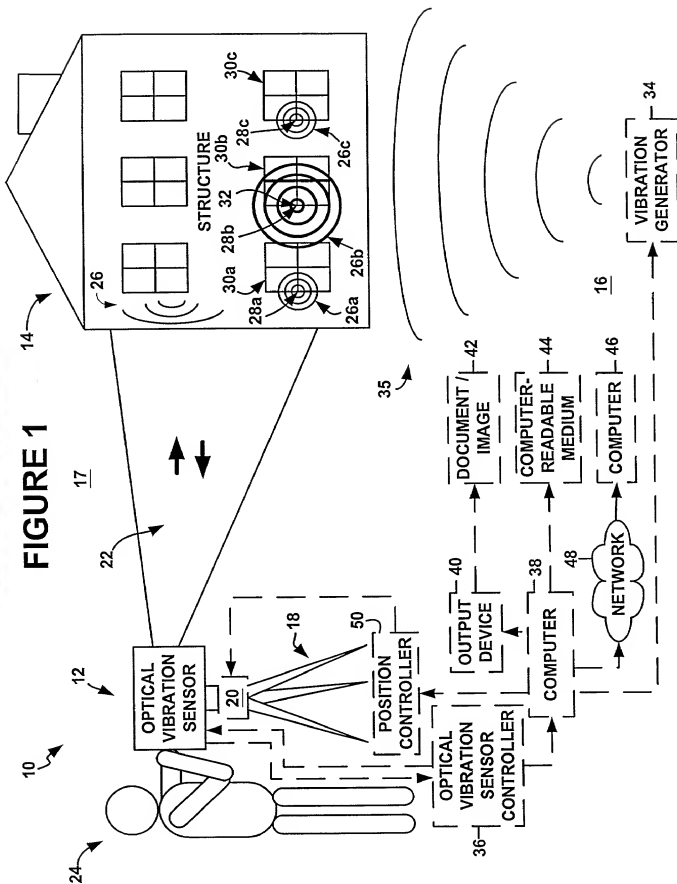
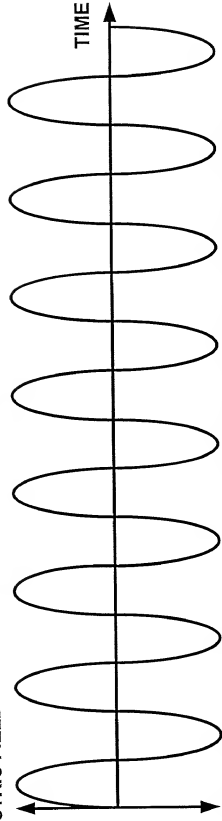


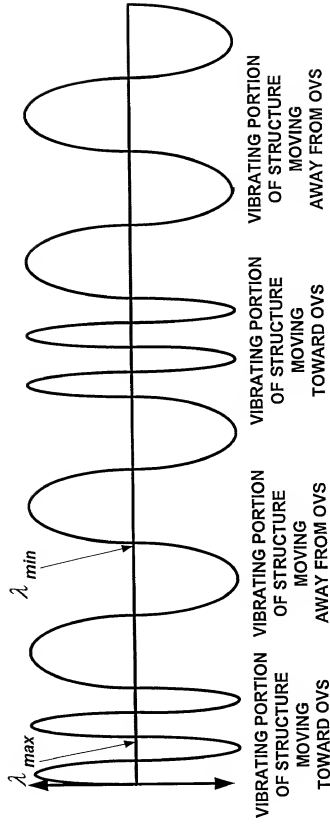
FIGURE 1



**FIGURE 2A** FREQUENCY OF LASER BEAM TRANSMITTED TO STRUCTURE  
ELECTRIC FIELD



**FIGURE 2B** FREQUENCY OF LASER BEAM RECEIVED FROM STRUCTURE  
PERIOD T OF VIBRATION



**FIGURE 3**  
OPTICAL VIBRATION SENSOR

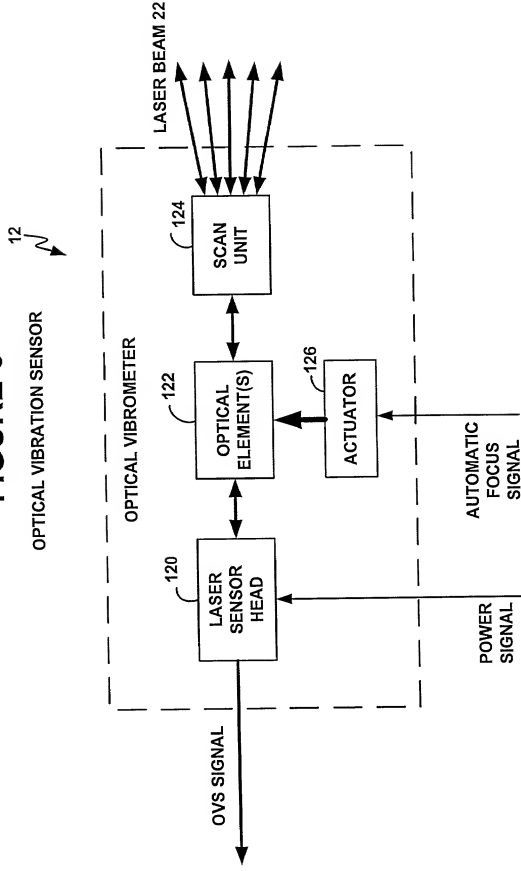
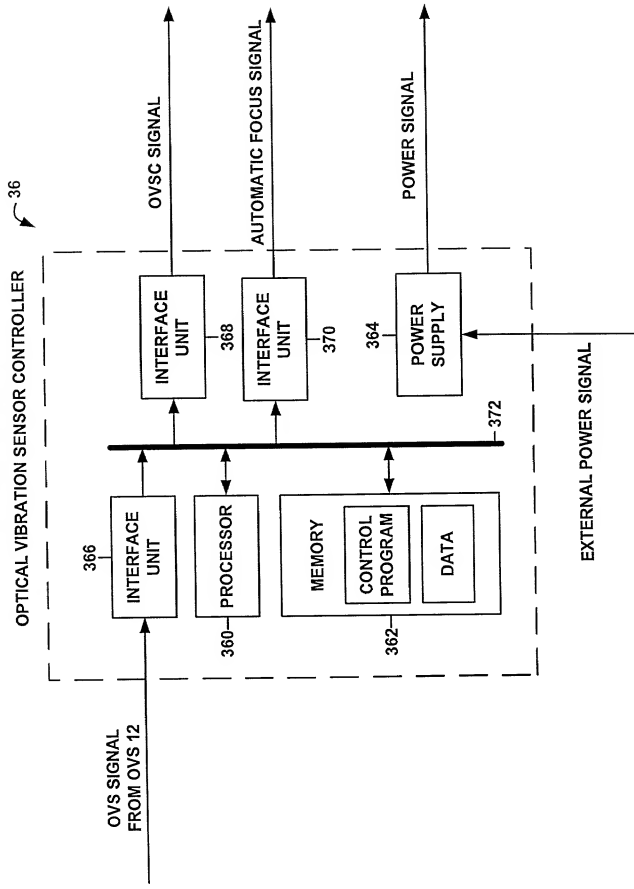


FIGURE 4



# FIGURE 5

FROM OVS 12 AND/OR  
OVSC 36

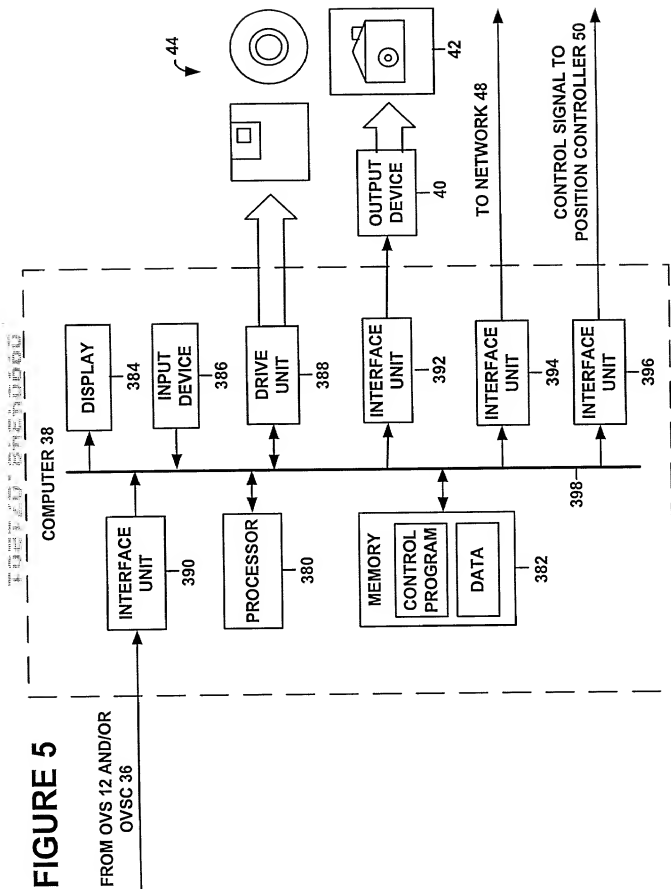
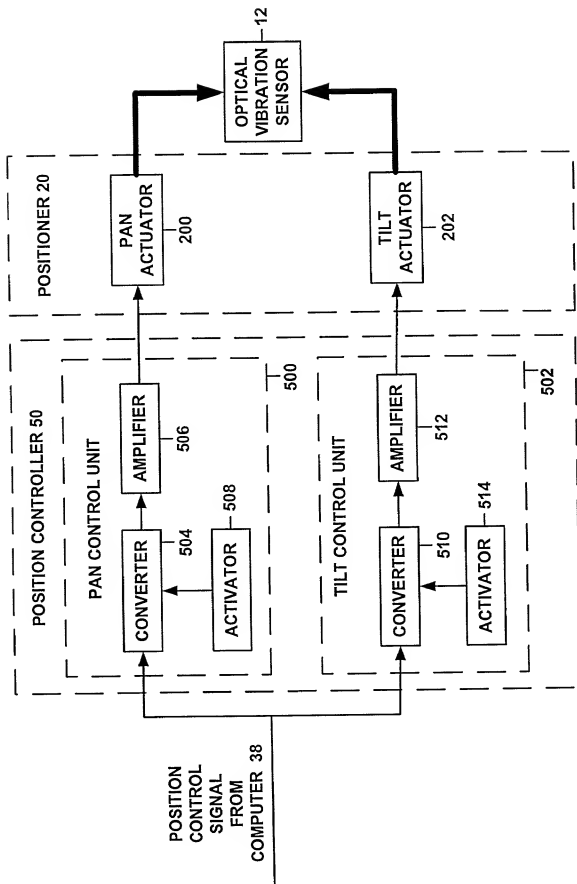


FIGURE 6



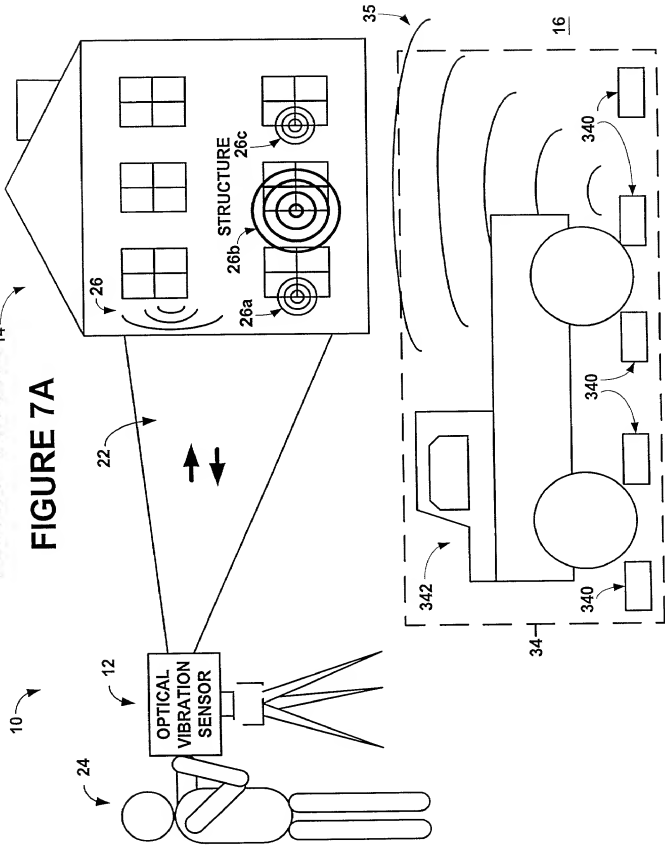
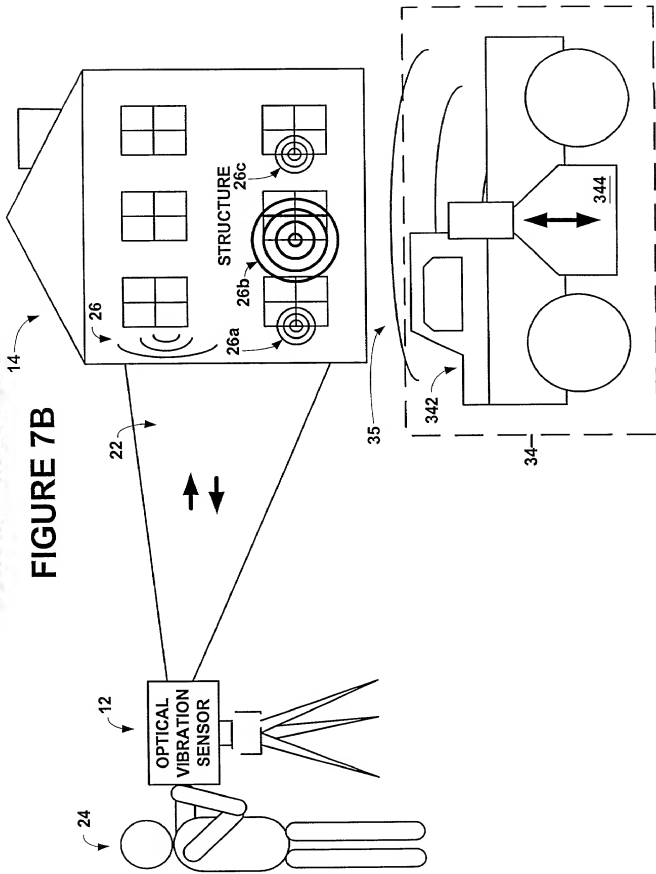
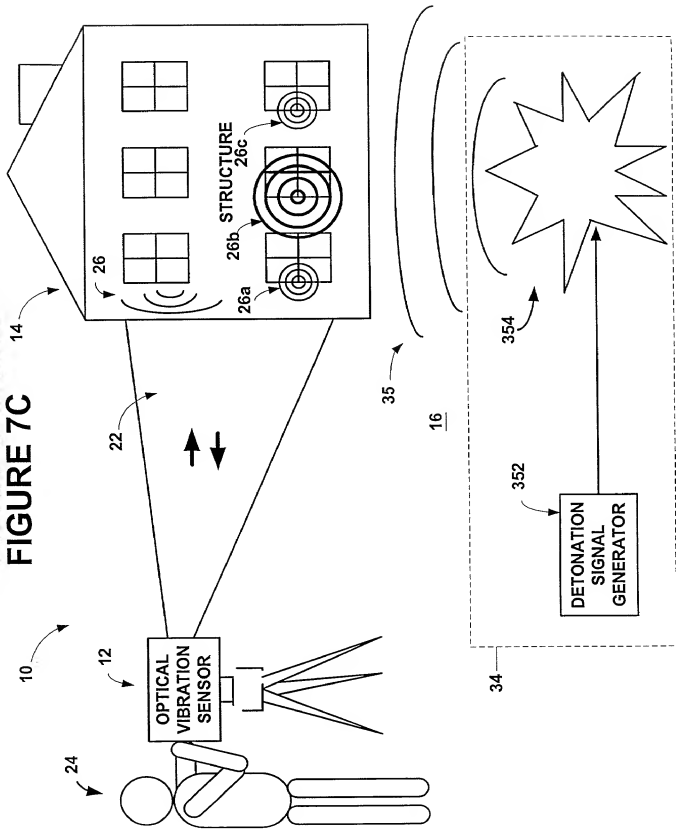


FIGURE 7B





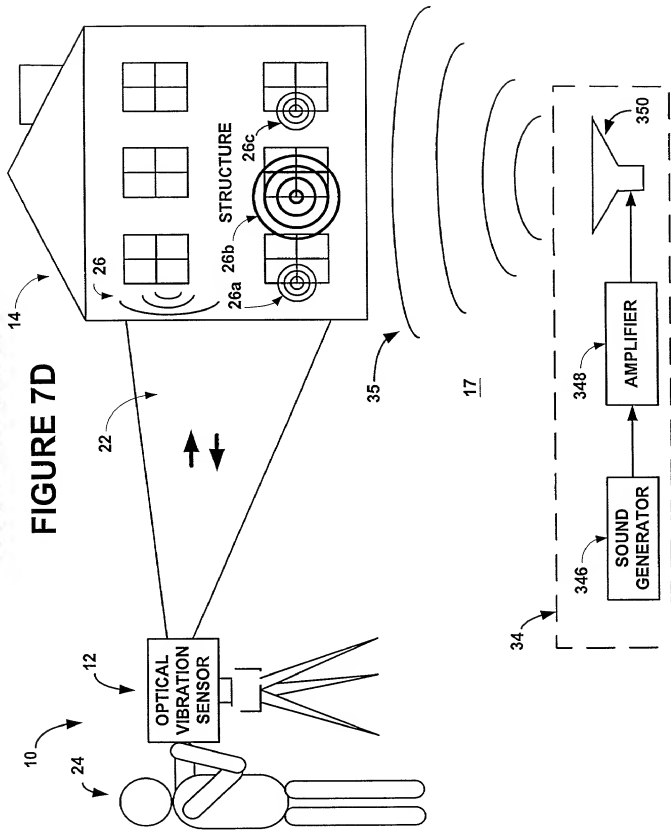


FIGURE 7E

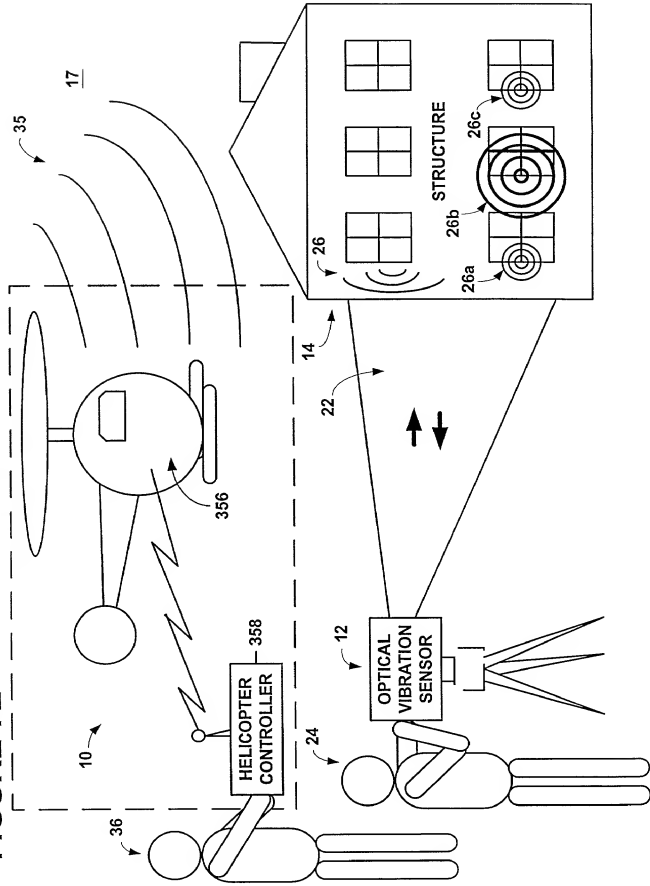
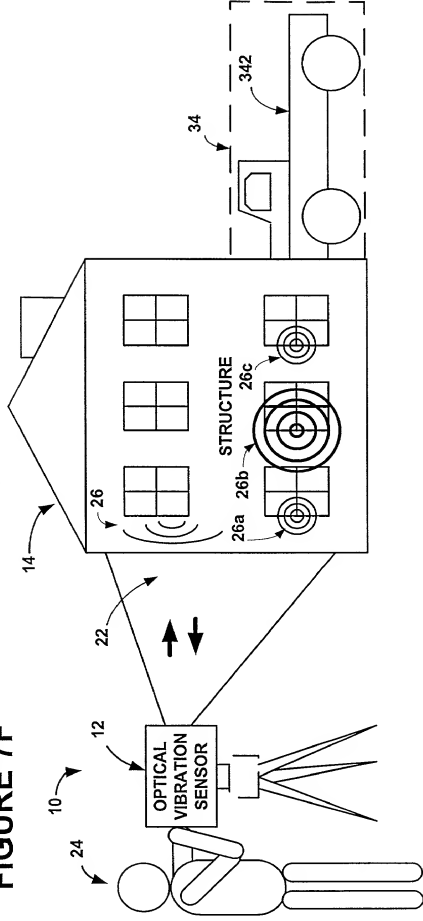


FIGURE 7F



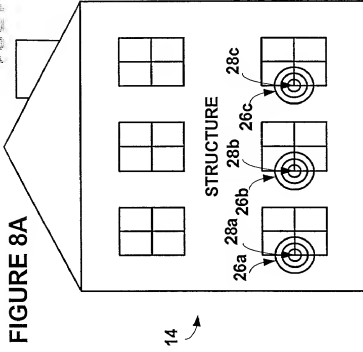


FIGURE 8B

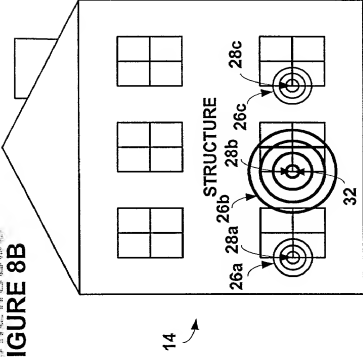


FIGURE 9A

BASE LINE DATA
.....
.....
.....4.....3.....4.....
.....
.....

FIGURE 9B

LATER-ACQUIRED DATA
.....
.....
.....4.....556.....4.....
.....
.....

# FIGURE 10

GENERAL  
METHOD

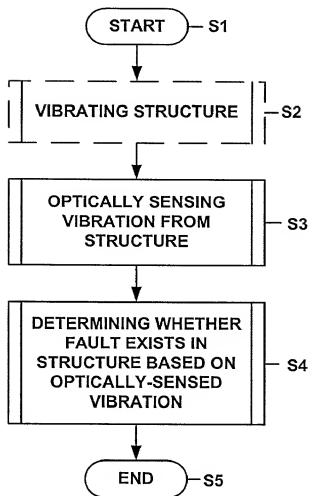
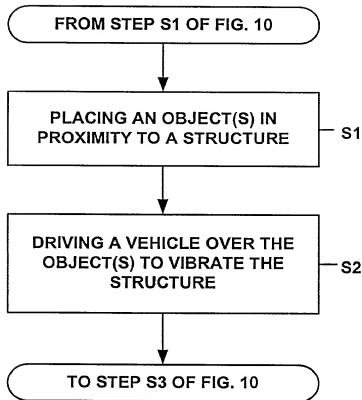
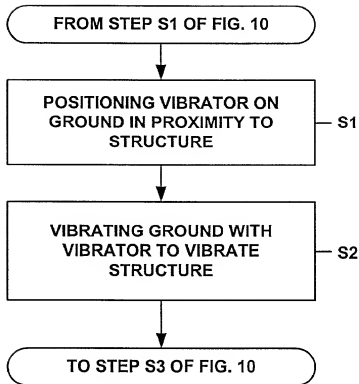


FIGURE 10

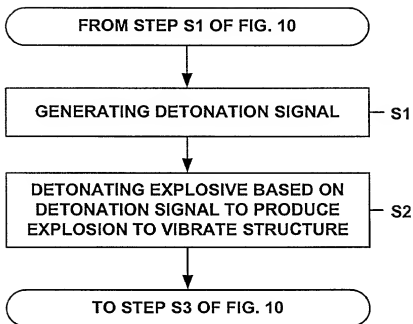
# FIGURE 11A



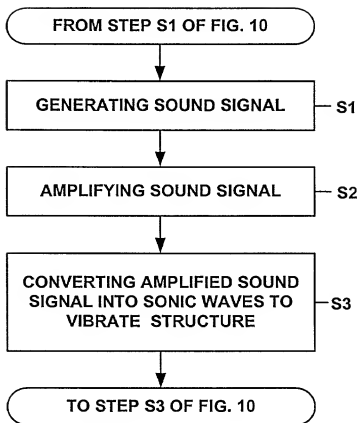
**FIGURE 11B**



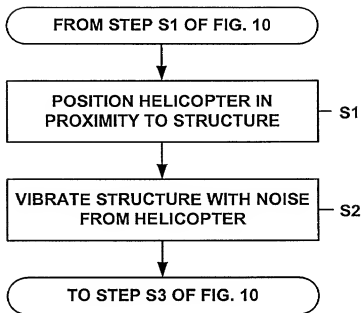
# FIGURE 11C



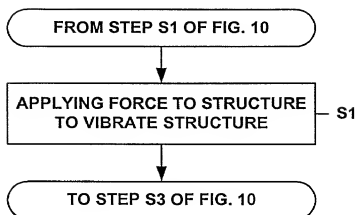
**FIGURE 11D**



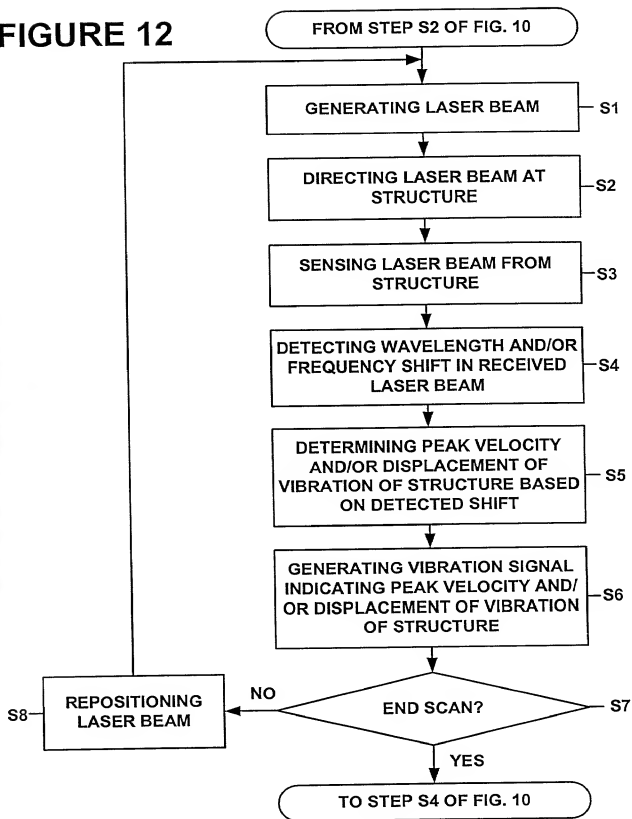
# FIGURE 11E



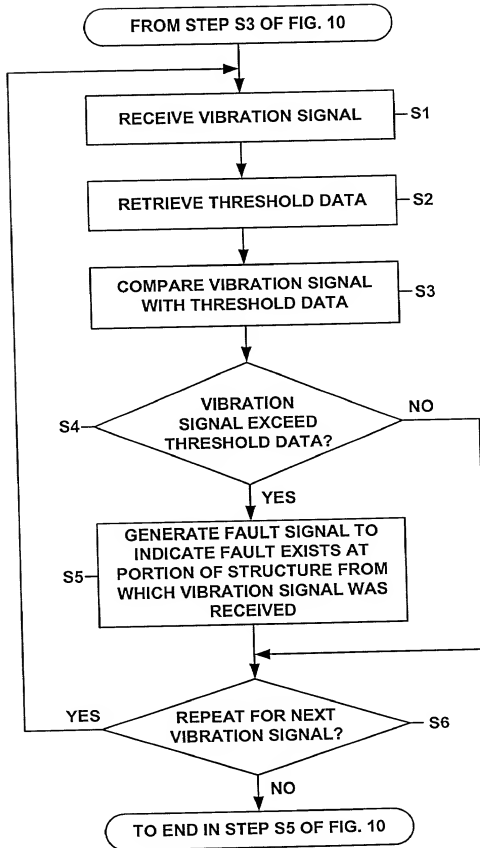
# FIGURE 11F



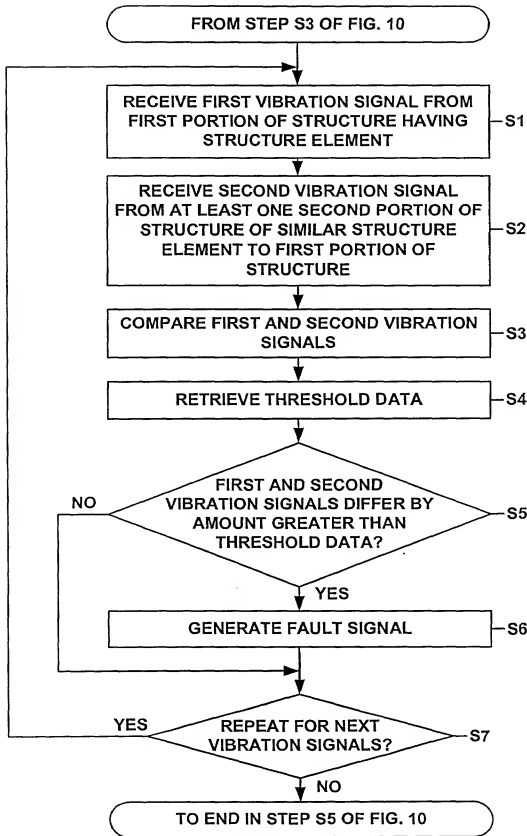
**FIGURE 12**



**FIGURE 13A**



# FIGURE 13B



**FIGURE 14**

METHOD FOR  
DETERMINING  
WHETHER FAULT  
EXISTS IN  
STRUCTURE USING  
BASE LINE DATA

